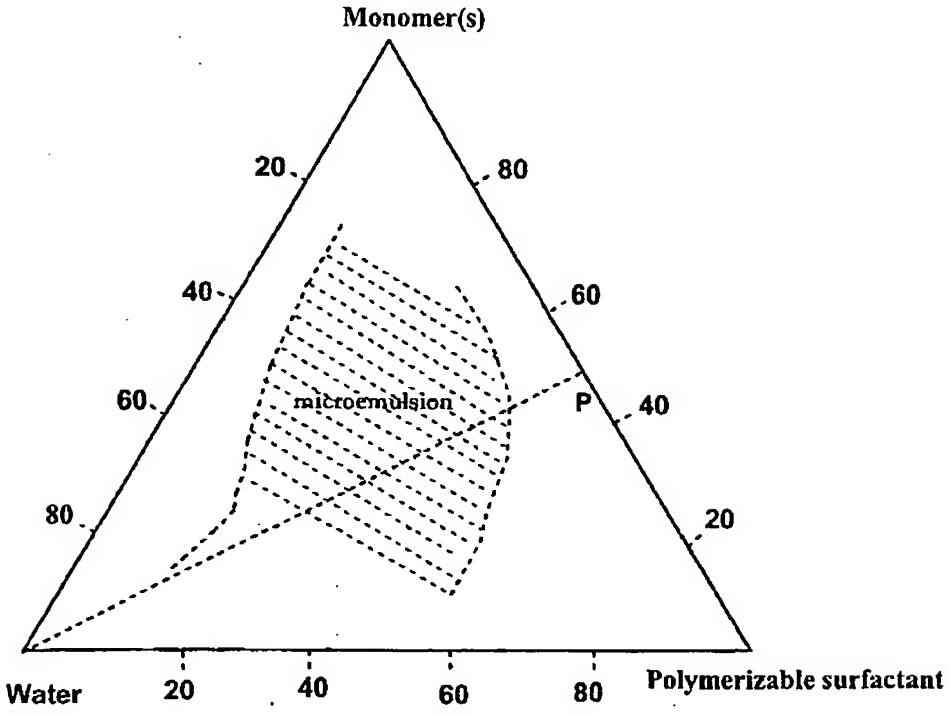
Monomer(s)
20
80
40
60
60
microemulsion
P
40
80
20
Water
20
40
60
80
Polymerizable surfactant

FIGURE 1

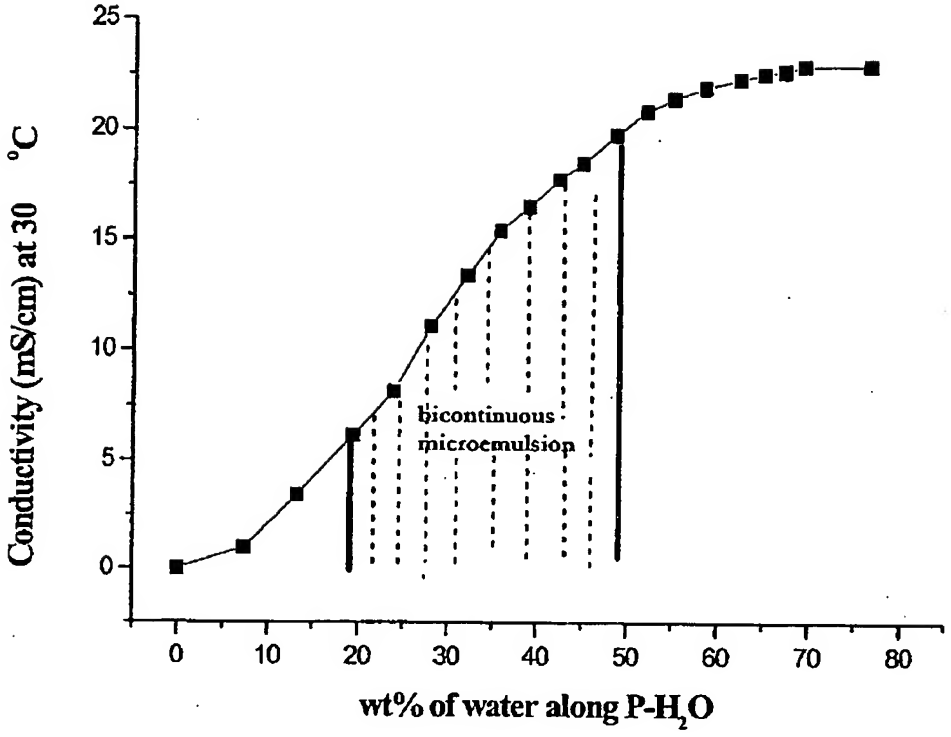
Conductivity (mS/cm) at 30 °C
25
20
15
10
5
0
0
10
20
30
40
50
60
70
80
bicontinuous
microemulsion
wt% of water along P-H2O

FIGURE 2

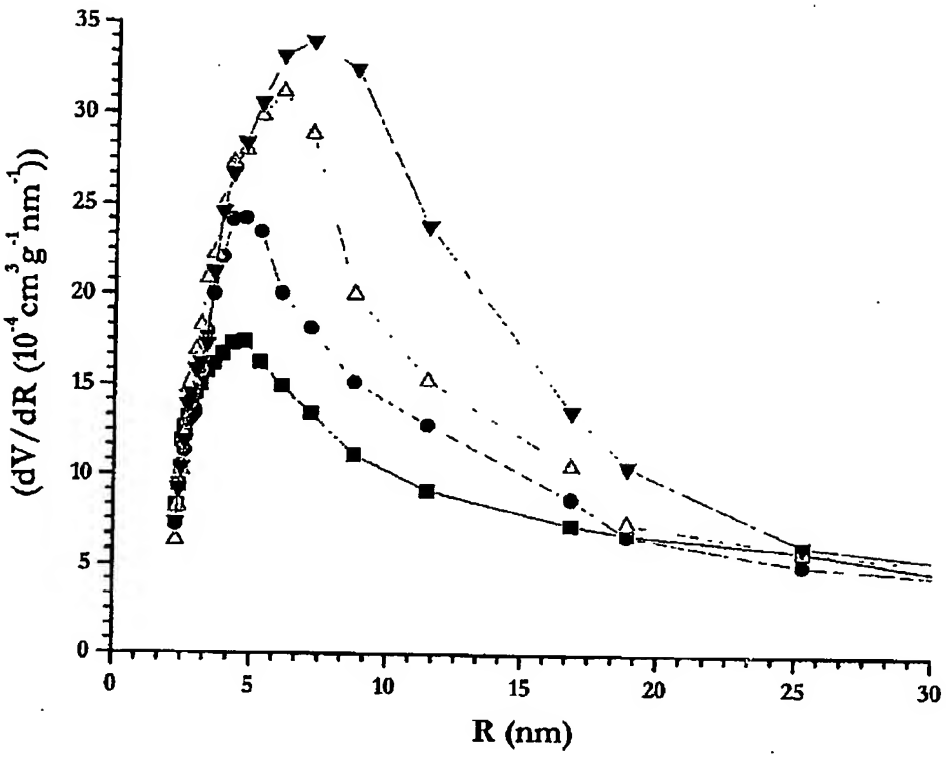

FIGURE 3

	Composition of Microemulsion (wt%)*				
Samples	**1**	**2**	**3**	**4**	**5**
Water	**26.0**	**20.0**	**26.0**	**25.0**	**25.0**
AIPSA	**28.0**	**30.0**	**29.0**	**29.0**	**-**
AUPSA	**-**	**-**	**-**	**-**	**29.0**
AN	**-**	**15.0**	**-**	**-**	**-**
MMA	**25.0**	**23.5**	**30.0**	**20.0**	**30.0**
SPM	**20.0**	**-**	**14.0**	**14.0**	**-**
SPI	**-**	**10.0**	**-**	**-**	**15.0**
NAMAP	**-**	**-**	**-**	**8.0**	**-**
A174	**-**	**-**	**-**	**3.0**	**-**
MBAA	**-**	**1.5**	**-**	**-**	**-**
EGDMA	**1.0**	**-**	**1.0**	**1.0**	**1.0**
Ion Conductivity after treated with 0.5M H_2SO_4					
S/cm	**0.16**	**0.11**	**0.11**	**0.14**	**0.09**

- **Polymerization by UV-initiator: 0.3wt%**

FIGURE 4

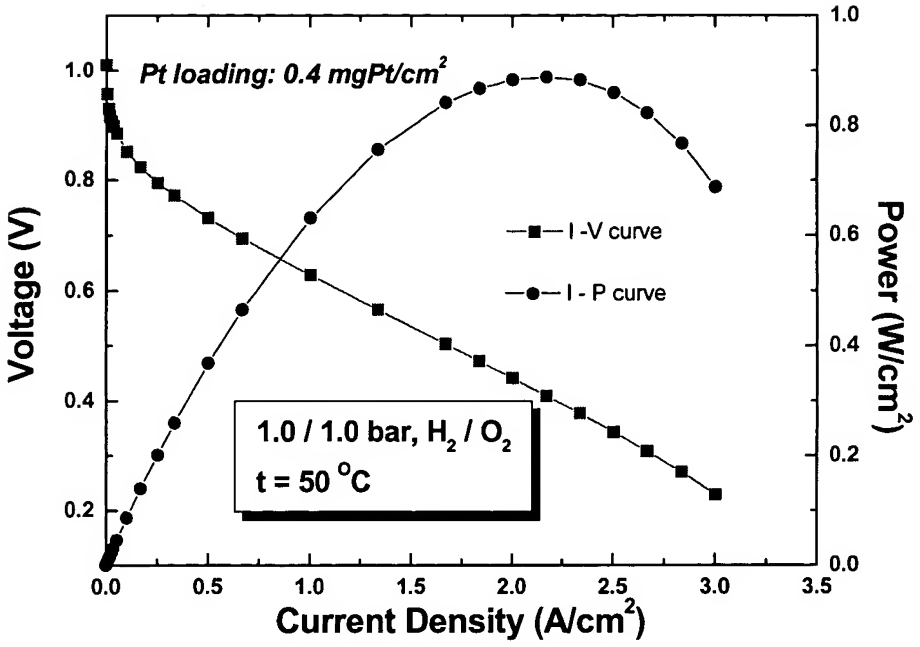
Pt loading: 0.4 mgPt/cm2
I -V curve
I - P curve
1.0 / 1.0 bar, H2 / O2
t = 50 °C
Voltage (V)
Power (W/cm2)
Current Density (A/cm2)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
0.2
0.4
0.6
0.8
1.0

FIGURE 5

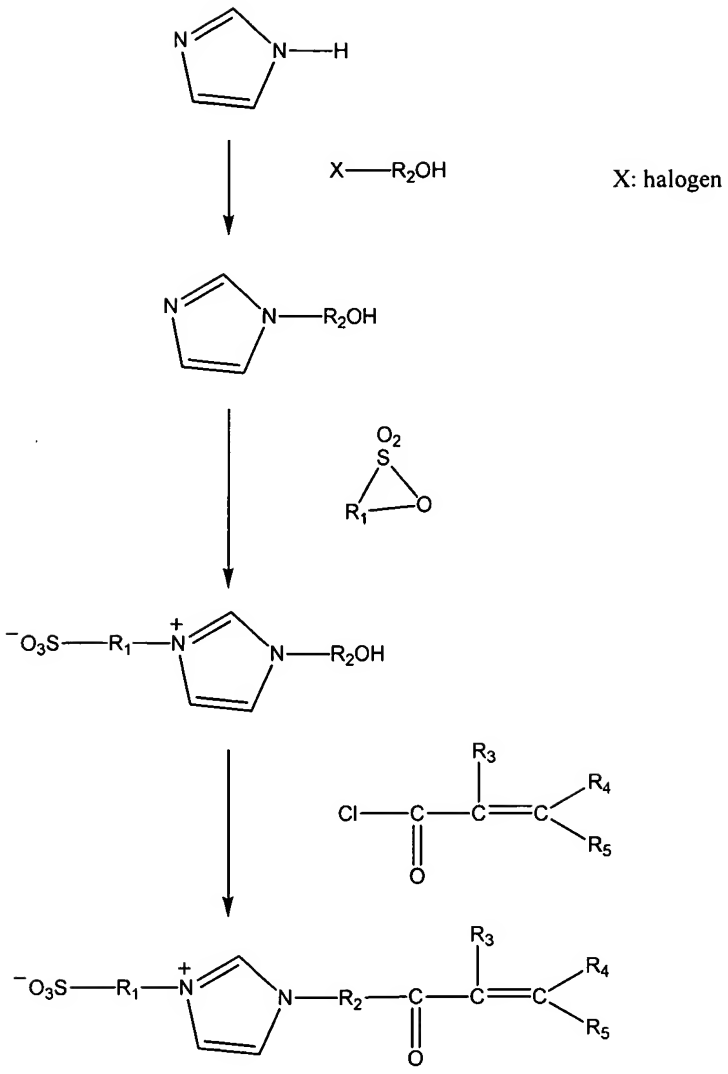

FIGURE 6A

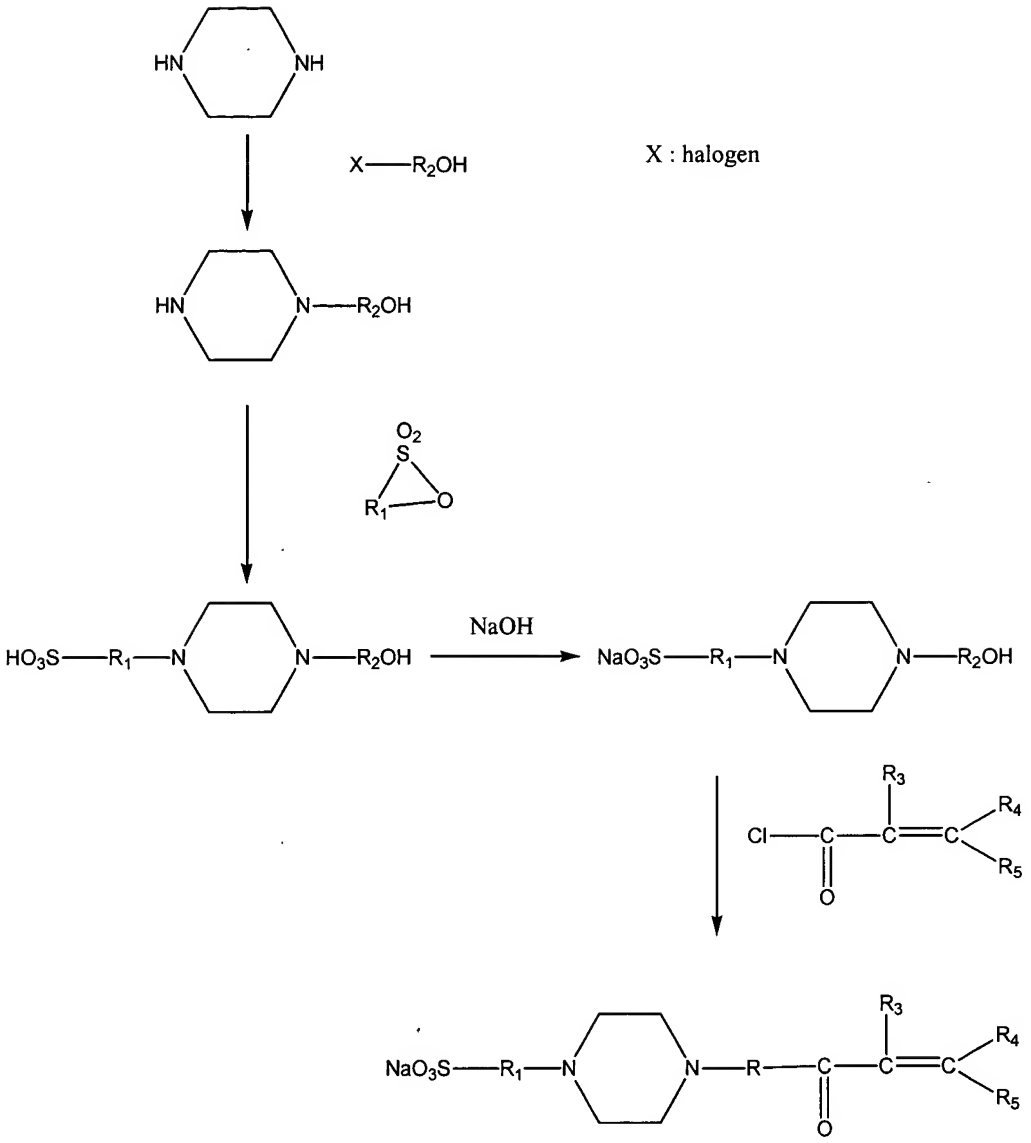
HN
NH
X—R2OH
X : halogen
HN
N—R2OH
O2
S
R1
O
HO3S—R1—N
N—R2OH
NaOH
NaO3S—R1—N
N—R2OH
R3
R4
Cl—C—C=C
R5
O
NaO3S—R1—N
N—R—C—C=C
R3
R4
R5
O

FIGURE 6B

Sample	Composition of precursor microemulsions			Appearance	
	Water	MMA	AIPSA	BP	AP
AIPSA-1	25	37.5	37.5	Clear	Clear
AIPSA-2	30	35	35	Clear	Clear
AIPSA-3	35	32.5	32.5	Clear	Clear
AIPSA-4	40	30	30	Clear	Clear

FIGURE 7